

DAVE148-001APC US PATENT PC10560A

WHEREAS, I/WE

Robert Gerard Al a United States cit States of America	izen, residing at 104 Castle Hi	ll Road, Pawcatuck, Conne	cticut, 06379, United
Everett Lee ROSE a United States citiz America	Y en, residing at 457 Route 164	, Preston, Connecticut 0636	55, United States of
improvements in L	AWSONIA DERIVED G	n one inventor is listed above), have ENE AND RELATED SOR USES, the specification of whi	odC POLYPEPTIDES,
(a) []	was executed on even date he	rewith;	
(b) [] or []	was filed onas [] Application No 0/		
	Express Mail No., as Applicat	ion No. not yet known(if applicable); or	and was amended on
(c) [x]	11 May 2000	PCT International Application No and as amended und (if any) and/or (if any).	er PCT Article 19 on
(hereinafter referred to as	Assignee) desires to acquire the ences of America, its territories and po	tire rights, title, and interest in and t	to the said improvements with
acknowledged, Assignor hereby sell, assign, transf and interest in the United Patent Applications in the the United States of Ame under International Conve	hereby acknowledges that is has seer and set over, unto Assignee, its I States of America, and its territor United States of America and alleica which may be granted thereometions; and Assignor hereby autho Patents for said improvements	e consideration, the receipt and sold, assigned, transferred and set of successors, legal representatives as ories and possessions in, to and undivisions, renewals and continuation and all reissues and extensions rizes and requests the Commissions to Assignee, its successors, legal	over, and by these presents does not assigns, the entire right, title, der said improvements, and any ions thereof, and all Patents of thereof, and all rights of priority er of Patents of the United States
representatives and assign lawful papers, execute al	is, any facts known to it respecting divisional, continuing and reissurits successors, legal representation	rees that it will communicate to og said improvements, and testify i e applications, make all rightful oa es and assigns, to obtain and enfo	n any legal proceeding, sign all ths and generally do everything
IN TESTIMON	Y WHEREOF, Assignor intending	to be legally bound has hereunto af	fixed its signature.
This 16 25 day of	April , 2901 2002	Botant & an	Kunsaver
This $18^{\frac{Th}{L}}$ day of	April , 2001 2002	Signature of Robert Ger Eventh Lee Rosignature of Everett Lee	ROSEY



DAUI 148-001 APC



DEVOLUTION OF TITLE DOCUMENTS

ASSIGNMENT

BETWEEN:

The ASSIGNORS:(i) Michael PANACCIO, an Australian citizen,

of: 122 Hill Road, North Balwyn, Victoria 3104, Australia; and

(ii) Detlef HASSE, an Australian citizen,

of: 4 Scullin Court, Sunbury, Victoria 3429, Australia;

AND

The ASSIGNEE:

STATE OF VICTORIA as represented by its DEPARTMENT OF

NATURAL RESOURCES AND ENVIRONMENT.

of: 8 Nicholson Street, East Melbourne, Victoria 3002, Australia;

In respect of the inventions disclosed in the patent applications listed in the Schedule affixed hereto.

WHEREAS:

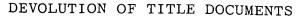
- 1. The ASSIGNORS are co-applicants in respect of the patent applications listed in the Schedule;
- 2. The ASSIGNEE was, at the time the invention was made, the employer of the Assignors; and the ASSIGNEE is desirous of acquiring an interest in, to and under said invention and any Letters Patent to be obtained therefor;
- 3. This Assignment Witnesses that, in consideration of ONE DOLLAR (\$1.00), the receipt of which is hereby acknowledged, the ASSIGNORS hereby sell, assign, transfer and set over to the ASSIGNEE the exclusive rights, titles and interests to have and to hold, use, exercise and enjoy said inventions and any and all Patent Applications which claim the benefit of priority from any or all of the Patent Applications listed in the Schedule, and any and all Letters Patent to be obtained on any and all of said Patent Applications, and any divisional application, continuation application, renewal, reissue or substitute thereof for the full term or terms for which the same may be granted;
- 4. The ASSIGNORS hereby covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;
- 5. The ASSIGNORS further covenant that the ASSIGNEE will, upon request, be provided promptly with all pertinent facts and documents relating to said applications, said inventions and said Letters Patent as may be known and accessible to the ASSIGNORS, and will testify as to the same in any interference or litigation related thereto, and will promptly execute and deliver to the ASSIGNEE or its legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain and enforce said applications, said inventions and said Letters Patent which may be necessary or desirable to carry out the purposes hereof at the cost of the ASSIGNEE or subsequent titleholder.



IN WITNESS WHEREOF, the parties hereto have hereunto executed this Assignment:

For and on behalf of the ASSIGNORS: Name: Michael PANACCIO Name: Title: DATED this Witness: Officially Name: Meri Smith Title: Senior Sciennist DATED this Fifth DAY of October , 1999. For and on behalf of the ASSIGNEE: STATE OF VICTORIA as represented by its DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT by its authorized officer whose signature appears opposite hereto: Name: Title: Witness: Name: Title: DAY of NOVEMBER, 1999.

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of:



BETWEEN:

The ASSIGNOR:

STATE OF VICTORIA as represented by its DEPARTMENT OF

NATURAL RESOURCES AND ENVIRONMENT.

of: 8 Nicholson Street, East Melbourne, Victoria 3002, Australia;

AND

The ASSIGNEES:(i)

AGRICULTURE VICTORIA SERVICES PTY LTD,

of: 475 Mickleham Road, Attwood, Victoria 3049, Australia; and

(ii) PIG RESEARCH AND DEVELOPMENT CORPORATION.

3rd Floor, Industry House, Brisbane Avenue, Australian Capital

Territory 2600, Australia;

In respect of the inventions disclosed in the patent applications listed in the Schedule affixed hereto.

WHEREAS:

- 1. The ASSIGNOR is the employer and assignee of inventors in respect of the inventions described in the patent applications listed in the Schedule;
- 2. The ASSIGNEES are desirous of acquiring an interest in, to and under said invention and any Letters Patent to be obtained therefor;
- 3. This Assignment Witnesses that, in consideration of ONE DOLLAR (\$1.00), the receipt of which is hereby acknowledged, the ASSIGNOR hereby sells, assigns, transfers and sets over to the ASSIGNEES their exclusive right, title and interest to have and to hold, use, exercise and enjoy said inventions and any and all Patent Applications which claim the benefit of priority from any or all of the Patent Applications listed in the Schedule, and any and all Letters Patent to be obtained on any and all of said Patent Applications, and any divisional application, continuation application, renewal, reissue or substitute thereof for the full term or terms for which the same may be granted;
- 4. The ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;
- 5. The ASSIGNOR further covenants that the ASSIGNEES will, upon their request, be provided promptly with all pertinent facts and documents relating to said applications, said inventions and said Letters Patent as may be known and accessible to the ASSIGNOR, and will testify as to the same in any interference or litigation related thereto, and will promptly execute and deliver to the ASSIGNEES or their legal representative any and all papers, instruments or affidavits required to apply for, obtain, maintain and enforce said applications, said inventions and said Letters Patent which may be necessary or desirable to carry out the purposes hereof at the cost of Agriculture Victoria Services Pty Ltd, or subsequent titleholder as subject to any Agreement thereto

- 2 -

between Agriculture Victoria Services Pty Ltd and said subsequent titleholder.

IN WITNESS WHEREOF, the parties hereto have hereunto executed this Assignment:

For and on behalf of the ASSIGNOR: STATE OF VICTORIA as represented by its DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT by its authorized officer whose signature appears opposite hereto: Name: Title: months in riem industries Witness: Name: P MACKENIE Title: DAY of NOVENISEA, 1999. For and on behalf of the ASSIGNEES: AGRICULTURE VICTORIA SERVICES PTY LTD. by its authorized officer whose signature appears opposite hereto: MR BRUCE CANG Name Title: Witness: Name: MANAGER - LATELLECTUAL PRINCITY AND GATRACTS Title: DATED this PIG RESEARCH AND DEVELOPMENT CORPORATION by its authorized officer whose signature appears opposite hereto: Dr Anthony Peacock Name: Executive Director Title: Pig Research and Development Corporation

DAY of _ November

DATED this

Name: Selly O'Brien

Title: Executive Assistant.

2320

DAVI148-001APC



ASSIGNMENT

BETWEEN:

The ASSIGNOR,

Catherine WRIGHT, an Australian citizen,

of:

49/422 Cardigan Street, Carlton, Victoria 3053, Australia;

AND

The ASSIGNEE:

STATE OF VICTORIA as represented by its DEPARTMENT OF

NATURAL RESOURCES AND ENVIRONMENT,

of:

8 Nicholson Street, East Melbourne, Victoria 3002, Australia;

In respect of the invention disclosed in the United States Patent Application No. 60/133,989 entitled "Novel Lawsonia spp. gene and uses therefor V", which was filed in the United States Patent and Trademark Office on May 13, 1999.

WHEREAS:

- 1. The ASSIGNOR is the co-applicant in respect of the aforesaid patent application;
- 2. The ASSIGNEE was, at the time the invention was made, the employer of the Assignors; and the ASSIGNEE is desirous of acquiring an interest in, to and under said invention and any Letters Patent to be obtained therefor;
- 3. This Assignment Witnesses that, in consideration of ONE DOLLAR (\$1.00), the receipt of which is hereby acknowledged, the ASSIGNOR hereby sells, assigns, transfers and sets over to the ASSIGNEE the exclusive right, title and interest to have and to hold, use, exercise and enjoy said invention, and any and all Patent Applications which claim the benefit of priority from said Patent Applications, and any and all Letters Patent to be obtained on any and all of said Patent Applications, and any divisional application, continuation application, renewal, reissue or substitute thereof for the full term or terms for which the same may be granted;
- 4. The ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale;
- 5. The ASSIGNOR further covenants that the ASSIGNEE will, upon request, be provided promptly with all pertinent facts and documents relating to said application, said invention and said Letters Patent as may be known and accessible to the ASSIGNOR, and will testify as to the same in any interference or litigation related thereto, and will promptly execute and deliver to the ASSIGNEE or its legal representative(s) any and all papers, instruments or affidavits required to apply for, obtain, maintain and enforce said application, said invention and said Letters Patent which may be necessary or desirable to carry out the purposes hereof the cost of the ASSIGNEE or subsequent titleholder.





IN WITNESS WHEREOF, the parties hereto have hereunto executed this Assignment: